various muscles, such as the sterno-mastoid and digastric together.

An attempt is made to fill the rest with an aseptic blood clot. The skin wounds should be carefully sutured and ample drainage should be provided by drainage tubes introduced through stab wounds at proper points. These should not be removed for several days or until all flow of lymph from the cut lymphatics and serum from the contracting blood clots has ceased.

At the first sign of infection the wound should be opened and carefully packed with iodoform gauze.

I have had one case of hemorrhage from the internal jugular as a result of ulceration of the wall of the vein following infection. After gauze tamponing the patient recovered.

The patient should be kept in the sitting posture for several days following the operation.

BASIC PRINCIPLES IN ECZEMA.*

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Eczema was defined by Bateman 100 years ago as "a non-contagious eruption, generally the effect of an irritant, whether externally or internally applied, but occasionally produced by a great variety of irritants in persons whose skin is constitutionally very irritable." It has been said that this definition cannot be improved upon today.[1]

Since Bateman three important doctrines have claimed supremacy. First, Hebra and the Vienna school contended strongly that eczema is of external origin. Following upon this came the French school with the claim that it is of internal or diathesic origin. Later Unna promulgated the theory that all eczemas can be traced to a microbic origin. Both the Vienna and French schools attracted many followers, but Unna's claims never gained wide acceptation. In recent years the most commonly held views have been that eczema is exactly what Bateman called it a century ago, viz., "the effect of an irritant whether externally or internally applied." There has now appeared a tendency toward the idea of exclusively external causation. To what extent this view is tenable a consideration of some of the basic principles of the affection will possibly help us to decide.

No discussion of eczema can be intelligently pursued until there is a common understanding as to the distinction between eczema and dermatitis.

Morris[2] says: "Eczema is a catarrhal inflammation of the skin originating without visible external irritation. This definition excludes all forms of inflammation caused by chemical or mechanical irritants. The artificial dermatitis so produced is identical anatomically with the eczematous process and causes indistinguishable lesions, but is not eczema. It is evident therefore that there is something more in eczema than in inflammation of the skin due to a local and transient cause—a quantity beyond this—a pathologic x which may be some invisible source of irritation, some constitutional peculiarity or both of these factors."

This reasoning seems to Pusey[3] "a *reductio ad absurdum,* because it amounts to saying that two things which are the same are different because they are produced differently."

In reality the differentiation of eczema and dermatitis is only a convention of nomenclature whereby those catarrhal skin inflammations of known external cause are labeled dermatitis and those of unknown cause are branded eczema. No one can refute, however, the observations of Morris as to the unknown quantity in eczema. But the same observations apply equally in many cases of dermatitis of known external cause. Why, for example, do certain individuals react with acute inflammations to contact with poison oak, poison ivy or certain proprietary hair dyes while others remain unaffected? Assuredly there is some pathologic x, whether we term it susceptibility or immunity or what not. Now if we assume that certain eczemas are of definite and known external origin, and if we admit, as I think we must, that the lesions of dermatitis from poison ivy, for example, are anatomically identical with those of acute eczema, what justification is there for calling them by different names? Absolutely none. The only logical distinction is to limit the term dermatitis to those reactions due to irritants which act upon all alike and which subside spontaneously when the offending material is removed.

Some chemical substances—sulphuric acid, for example—will cause a definite reaction in any skin. Other chemicals—iodoform, for example—will cause a reaction only in certain skins. The essential problem in the etiology of eczema, I take it, is the determination of the reason for this—a reason which is not found in any mere generalities.

Granting that the exciting cause of eczema is sometimes or even always from without, we must search for a predisposing cause either within the body or in the intimate metabolism of the skin itself. The proponents of the theory that eczema is of exclusively external origin say that here is an eczematous reaction, the subject has been irritated with some definite chemical or other noxious substance and hence the reaction comes from without. What they fail to explain is why the particular subject reacts while others who are subjected to the same external influences fail to react.

Certain external agents are well known to be provocative of eczematous reactions, *e. g.,* atmospheric conditions, winds, inclemencies of weather, irritating excretions, chemicals, plants, dyestuffs, parasites, various substances used in the arts, sugar, cement, etc., but, above all, traumatism. Most of these are easily traceable. Occasionally we meet an eczematous reaction of the face and neck, perhaps of even more extensive distribution, due to the use of some proprietary hair dye. Persistent and recurrent patches on the faces of middle aged females should arouse our suspicion of such application. The information is almost never volunteered and quite frequently it is denied.

Aside from purely outward causes the inherent quality of the skin itself must be reckoned with. In both infancy and old age the skin is particularly

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vulnerable and the ichthyotic skin shows a marked susceptibility to eczema. By the term ichthyotic skin, not only marked ichthyosis is meant but the milder forms of so-called xerodermatous skins which share in the eczematous tendency.

A great variety of internal predisposing causes have seemed by many observers to be operative. They may be grouped under such general headings as gastro-intestinal, circulatory, nervous and metabolic disturbances. The well known flushing of the face after a stimulating meal amounts practically to an incipient eczema. Frequently an eczema seems to stand in relation with some visceral disturbance. Darier [4] says in this respect: "Often a rebellious and progressive eczema is seen to precede by several months or years and announce, as it were, the manifestation of a latent visceral cancer." Hyperacidity, indicanuria, thyroid changes, gout, compression at various parts of the anatomy by pressure of tumors from within or constrictions of clothing from without, all are mentioned as contributing factors in the diverse etiology of this affection. A routine examination of the blood and urine of all eczematous subjects will very seldom shed any light on the cause. Probably many of the above cited factors are themselves due to what it seems possible is most often the real or ultimate cause of eczema, namely, some disturbance of the nervous system. Just what the nature of the nerve participation may be it is difficult if not impossible to say. According to Darier, "It is not a matter of central or peripheral lesions which predisposes to eczema, but rather neurasthenia, overwork, emotion, moral shock, sorrow, etc."

Broeq [5] believes that eczema is developed frequently upon neurotic soil and that the vasomotor element plays in it one of the most important parts.

Our conception of eczema is simplified if we regard it not as a disease, but as a cutaneous reaction, a reaction which results from external or internal irritation in certain subjects. The entire matter will be further simplified if we do not think of eczema as divided into as many forms as there are lesions encountered, each of which has another adjective added by reason of special modifications according to the region involved.

There are three essential or primary lesions to be considered:

1. Erythema.
2. Vesicles.
3. Papulo-vesicles.

These correspond to the three main types of the disease, viz.: erythematous, vesicular and papulo-vesicular eczema. To these must be added another form because its primitive element is slightly variable and because it differs somewhat in configuration from the other forms. This fourth variety is known as nummular or tricophytoid eczema or eczema *en plaque*.

Erythematous, vesicular and papulo-vesicular eczemas are sufficiently explained by their names. It is well known that after erythema there is scale formation proportionate to the intensity of the erythema. Vesiculation may develop into pustules and later crusts; in declining it may present scales. These are consecutive lesions and give rise to such terms as *eczema squamosum, eczema crustosum,* etc.

All of these three primary forms present certain general characteristics. First of all is the tendency toward diversity of appearance. The erythematous eczema to-day is a squamous eczema to-morrow. What was yesterday a vesicular eczema is to-day a pustular eczema and soon again its identity will be lost in a patch of crusts.

There is always to be noted a certain degree of infiltration of the skin together with redness and the subjective sensation of itching. The flexor surfaces of limbs are points of preference. Except in the erythematous form, some degree of moisture is always in evidence at some stage. If to these we add a general tendency toward the formation of fissures and a vague, ill-defined outline, we shall have a fairly comprehensive picture of the eczematous process.

It is necessary to speak in rather more detail of the so-called nummular eczema. Objectively it stands alone among eczemas because of its configuration. Instead of an eczematous patch which fades insensibly away into the surrounding healthy skin, we find here clean cut round or oval patches from one to three inches in diameter, usually about the size of a silver dollar, and beginning as a rule with papulo-vesicles, though sometimes as simple vesicles. Occasionally these lesions clear up somewhat in the center, when they present more than ever the aspect which leads to their description as tricophytoid.

The interesting question arises as to whether there is anything about the form assumed by an eczema which will indicate the etiology in a given case. We hear such terms as gouty eczema, neurotic eczema, metabolic forms, etc. Are there special types of eruption which will permit us to say that a given patch is due to cold, to traumatism, or to gastro-intestinal, metabolic, visceral or nerve disorders? This question must be answered in the negative, because the etiologic elements are both external and internal influences. There may be certain types, however, which indicate an *etiologic dominance.* Papulo-vesicular forms in general seem most often related to internal disorders. This is particularly true of the nummular form in which the papulo-vesicle is usually the essential eruptive element, for in this form perhaps more than in any other no cure can be effected until some internal condition, as for example a chronically inflamed appendix, is removed or some pelvic disturbance relieved.

Various attempts have been made to identify certain types of eczema as neurotic. The point which suggests the participation of the nervous system is the tendency to lichenification, for an eczematous lesion may become lichenified as may any itching spot.

Occasionally an eczema which has primarily been of the characteristic vague outline develops a sharp line of demarcation from the surrounding skin. In such cases the suspicion at once arises of a secondary microbic invasion.

Within recent years what was for a long time known as eczema of the fingers and toes, a reac-

tion presenting a definite border, has been shown to be due to a parasite, the epidermophyton. This condition yields readily to a mild chrysarobin ointment, and of course is now not included among the eczemas.

While the present tendency in this country is perhaps to revert to the old Vienna doctrine of the exclusively external origin of eczema, it is well to consider some of the opinions of present day French writers by whom some relics of the diathesic school are not entirely abandoned.

Concerning the interesting theory of "interferences and intercurrences," Besnier [6] maintains that quite apart from the improvements and remissions common to the typical process of eczema, unexpected and often rapid arrests may supervene under the influence of diverse pathologic circumstances. In general, any grave intercurrent affection, as pneumonia, typhoid, etc., temporarily inhibits eczematous proliferation, although after the subsidence of this intercurrent affection the eczema blossoms forth anew. Furthermore, according to the same authority, clinical observation definitely shows that there may be established between the eczematous paroxysm and various organic or functional troubles, alterations and substitutions, or that the eczematous flux may be emunctorial. The development of one morbid process, such as eczema, following the suspension of another, typhoid for example, depends upon the presence of an anatomotopographic relation. While of course these alterations and substitutions are by no means always present, there are certain cases in which a balance becomes established which it is impossible to overlook.

Various observations of Broeq [7] regarding the advisability of treating all eczematous eruptions suggest a similar belief on his part. He says: "If it is a question of an eczema recently developed in a healthy subject, there is no doubt. Treat it as soon as possible. If it is a question of a recent eczema developed in a subject of some other disease, such as recurrent bronchitis, an attack of asthma or gout, such affections as the cutaneous manifestations modify beneficially, it will be temporarily advantageous not to suppress this derivation or, watching the process, to prevent by appropriate local means its great extension. Above all it is necessary to treat the general state, then little by little, with caution, one may first attempt to ameliorate and then cure the dermatosis.

"If it is a question of an eczema existing for a long time in a subject presenting no important visceral complications which alternate with acute attacks of the skin, it is necessary to make it disappear. If, on the contrary, it concerns aged people, rheumatic or gouty subjects, chronic asthmatic or bronchial individuals, those with visceral manifestations, as Bright's disease, etc., one should intervene with the greatest circumspection. In treating the eczema too energetically one may determine the appearance of pulmonary or even more grave cerebral congestions."

All this may seem reactionary and a reversion to the household therapeutics of our grandmothers who hesitated to heal too rapidly certain eruptions for fear of "driving them in."

Two relatively recent American articles present an opposite view. Hartzell [8] says: "There is a widely prevalent and deeply rooted notion that excrementitious matters circulating in the blood, especially those which pass out of the body by way of the kidneys, acting as irritants to the skin, are frequent causes of eczema. If this notion were correct, eczema should be a frequent complication of such diseases as chronic interstitial nephritis, in which the output of waste through the kidneys is frequently reduced to its lowest expression and the blood in consequence is charged with an enormous amount of toxic substances which are often excreted vicariously through the skin to a greater or less extent. Under such circumstances the conditions should be especially favorable to the production of cutaneous inflammation; but eczema instead of being a frequent complication of chronic nephritis, is quite infrequently associated with this affection."

Gilchrist,[9] in an attempt to ascertain the relationship of the various types of skin lesions to the tubular functional activity of the kidneys, injected a series of forty cases with phenolsulphonephthalein and concluded from the results that the skin cannot act vicariously with the kidneys, either in health or disease.

These two American observations refer only to the relationship between the kidneys and the skin, while the French writers refer to visceral relationships in general.

I can recall one case in my own practice in which the patient, a man about sixty years of age who suffered from a moist eczema about the neck, promptly died from an apoplectic seizure upon the cure of the eczema, although the treatment of the latter comprehended the very procedures which were indicated for a heightened blood pressure.

The relationship between dermatoses in general and the digestion is a matter of such general acceptation that its importance, if not overestimated, is frequently taken for granted even where it obviously plays no part. One does not hear of a balance established between the skin and the intestinal mucosa whereby the healing of an oozing cutaneous surface will be reflected as a diarrhea. Nevertheless we do see every day eczemas which are unfavorably affected by improper feeding.

Let us consider the case of an infant under treatment for extensive weeping eczema. Under a carefully regulated diet and the local application of mild astringents, a steady progress toward improvement is noted. Suddenly a recrudescence takes place with all the original symptoms in aggravated form. In seeking a possible cause we learn that some misguided relative has been regaling the child with pickles and peanuts. Are we not justified in saying the relapse was dietetic? Are we not further justified in assuming that the oozing surface acted in this child as a safety valve and that in some other child the same original impulse might have resulted in reflex convulsions?

To recapitulate briefly the etiology of eczema, the words of Widal may be quoted: "There is

no eczema—there are only the eczematous." This is in line with the view that eczema is a reaction of the skin largely brought about through external exciting causes in individuals who are particularly susceptible by reason of some internal, predisposing cause. Both external and internal causes cover a wide range, but I believe the most efficient external cause to be traumatism—the multitude of daily contacts—and the most potent internal cause a certain unbalance of the nervous system, whether we call it neurasthenia, vasomotor disturbance, or simple nervousness.

The treatment of eczema might be made the topic for a long discourse, but I shall present only an outline because the details vary with every case.

Treatment is of course both constitutional and local. First of all comes an inquiry into the patient's general health. If there be nothing to direct one's attention to any special organ, which is very often the case, the various etiologic possibilities are to be considered one by one. Among internal causes which have seemed to me operative in several cases were fibroids. In two cases severe papulo-vesicular eczemas were associated with prostatic trouble, one case being a simple hypertrophy, the other showing malignancy. The former was relieved of his eczema by operation, the other died refusing operation. A woman with acute vesicular eczema was relieved by treatment, but it constantly recurred until a system of very tight lacing was reformed when the cure was spontaneous. In a majority of cases some nerve element has been noted, either vasomotor disturbances or a general nerve irritability. Occasionally an eczema will be the apparent cause of a neurasthenic train of symptoms. One patient with an intractable eczema would burst into tears if he saw anyone looking at him in a street-car. His nervous symptoms all vanished with the relief that a soothing application afforded him.

As a rule two paramount indications are to be met, viz.: a rigid non-stimulating diet, and rest. Dietetic measures in the absence of any contra-indication provide exclusion of tea, coffee, alcohol, highly seasoned and nitrogenous foods. A sample diet calculated for the average individual who has usually been eating too much, is an exclusive diet of milk, boiled rice and Vichy water for the first week, with several doses of a saline such as Carlsbad salts. At the end of a week, cooked fruits and soft vegetables may be added. In another week chicken, eggs or fish in moderation. Most patients adapt themselves satisfactorily to this diet and experience a definite sense of general betterment aside from the relief of their eczemas.

The indication for rest is double. If the eczema is at all active and acute, anything which causes a dilatation of the superficial capillaries is detrimental. If there is any degree of nerve exhaustion the more nearly the rest is complete the better the result.

The local treatment of eczema is somewhat epitomized in the phrase—if acute, soothe; if chronic, stimulate.

The important point in local treatment is a perception of the intervening shades of difference between the actively developing, acute, weeping eczema, and the chronic, indolent, greatly thickened, scaly eczema.

For the frankly acute, moist eczemas I have found nothing comparable to the treatment with wet dressings. We are told that water is poison to eczema. Such is not the fact. The great damage attributed to water is due not to the water *per se,* but to the sudden change from wet to dry and *vice versa.* If wet dressings are elected, they must be kept consistently and continuously wet until the indication is to change. Let us take a typical case of moist infantile eczema involving chiefly the head and face. As the case first comes to us there are usually areas of raw, oozing surface alternating with thick, adherent crusts. A compress of boric acid solution, or one per cent. resorcin solution, even normal salt solution will effect a magic transformation in from twenty-four to forty-eight hours. Two masks are made of several thicknesses of fine linen, one being carefully washed while the other is in use. Renewing the compresses every three hours, a rapid improvement is noted. Within forty-eight hours the crusts have separated, the oozing surface has become dry, shining and ready for a healthy process of epidermization. In fact, if the resorcin solution has been used the process is already well under way. At this stage the compresses may be discontinued and a soothing ointment of boric acid and ichthyol (3 per cent. of each) may be substituted. In other cases less acute and for infants for whom such exacting ministrations are not practicable, frequent applications of a 3 per cent. aqueous solution of ichthyol followed by applications of calamine lotion are excellent.

In subacute cases, either in children or adults, 2 per cent. salicylic acid in Lassar's paste is a classic which deserves its high repute. It should be the remedy of choice when in doubt, for nearly always it is of service and it never does harm. As the case gets further away from the acute and nearer to the chronic type, stimulating applications are in order with keratolytic agents in strength according to the amount of thickening. The type of prescription for such a case is a combination of salicylic acid and a tar preparation, as oil of cade or oil of rusci. If only slightly indolent, salicylic acid 3 per cent. and tar 5 per cent.; if more sluggish, salicylic acid 5 per cent. and tar 10 per cent. may be tried. In the very indolent cases sulphur, green soap, pyrogallic acid, white precipitate are often of service.

In treating any eczematous surface a good rule is first to have a thorough cleaning of the surface to remove all crusts and debris. Preliminary applications of olive oil, or a starch poultice will serve this purpose. Nothing is more futile than to pile ointments upon crusts.

This is a mere outline of treatment. Often a soothing or astringent application effects a cure. Again a remedy designed to allay the itching causes a cure because the patient ceases scratching. But many cases resist. Our endeavor must be to discover the cause or causes. Often both external and internal factors are at work, both of which are hidden and unsuspected. It is the province

of the dermatologist to find these causes, but to do so he often requires much aid of the internist and the laboratorian.

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A CASE OF EXTRAPERITONEAL, INTRALIGAMENTOUS DERMOID CYST AND PREGNANCY.

By HENRY J. KREUTZMANN, M. D., San Francisco Polyclinic.

In the course of time I have operated a few dermoid cysts of the ovary, also some extraperitoneal, intraligamentous cysts not of ovarian origin. Likewise I have done ovariotomy in a number of cases during pregnancy; but I have never seen an extraperitoneal, intraligamentous dermoid, not during nor outside the gravid state, until quite recently.

Mrs. Gr., 28 years old; one child 5 years ago, easy labor; always been in good health; more children were much desired, but did not appear. Menses always regular, without any difficulty.

Last menses September 8, 1913. Towards the end of December, 1913, the lady called on me, not because she had anything to complain about, but because she wished to engage my services for her expected confinement.

When I made the usual examination I had difficulty in locating the uterus well, the gravida would not relax and her abdominal wall was thick and fat. I found the uterus turned to the right side and somewhat backwards; on the left side of the uterus a mass of indefinite character was located. A further examination about a week later failed for the same reasons to clear up conditions sufficiently; therefore examination under an anesthetic was proposed and shortly after done. The uterus was now distinctly mapped out, also the "mass" on the left side was found to reach way down into the cul-de-sac, located close to the uterus, immovable, semisolid, of the size of a small man's fist.

A diagnosis of ovarian cyst and pregnancy of four months was made.

January 14th operation was performed. Median incision through the very fat abdominal wall; the incision exposed not the uterus, but just the left side of it; this organ was placed entirely to the right of the middle and backwards. The left round ligament, much thickened, ran diagonally through the field of operation; along the side of the uterine cervix a few distended veins, one as broad as a finger, were noticed directly under the peritoneum. Nothing of a tumor was to be seen. Digital exploration found left ovary and tube slightly adherent to the side of the uterus; they could easily be detached and brought to view; they were perfectly normal, the ovary was the seat of a fresh corpus luteum.

Palpation revealed the tumor seated in the broad ligament, outside the peritoneal cavity proper.

The peritoneum over the ligament (and tumor) was incised transversely in front of the ligamentum rotundum. With great care and some difficulty the tumor was dug out, mostly bluntly; the inguinal vessels were partly exposed. Great care was employed in the enucleation of the tumor out of its bed, in order not to tear the thin cyst wall. From former experiences I know that it is impossible to remove these thin-walled cysts when once they are broken; furthermore, we do not know what is in them. Some difficulty was experienced, since owing to the pregnant condition every little vessel bled freely. While working in the cavity with the finger, the incision of the peritoneum tore; the tear extended towards that big before-mentioned vein, injuring it and producing a very lively hemorrhage.

The large cavity in the broad ligament was stitched together and the incision of the peritoneum closed.

The incision through the parietes was closed with particular care, owing to the amount of fat on one side and to the expected strain during pregnancy and delivery on the other side.

Uninterrupted recovery took place; sufficient time (six weeks at time of writing, end of February) has now elapsed to feel assured that no ill effect on the gravid uterus has resulted from the operative interference.

During operation the tumor felt soft, semisolid; when it was taken up for inspection after the operation was finished, it was found to be hard; when cut open the reason for this hardness was revealed. The contents were tallow, that had congealed; besides a large bundle of auburn hair was found in the cyst.

Of interest is the etiology of these rare extraperitoneal dermoid cysts; opinions differ. Some authors claim that they start from accessory ovaries, others derive them from germs disseminated during the descensus of the ovary; the most probable explanation is that they are parasitic formations, so-called "fetal inclusions."

ARTIFICIAL CULTIVATION OF THE GONOCOCCUS.

By ERNST ALBRECHT VICTORS, M. D., San Francisco Polyclinic.

Experience in attempting the cultivation and isolation of the gonococcus for bacterial vaccines and for complement fixation antigen has long convinced me that this is attended with considerably more difficulty and disappointment than is usually conceded. Less difficulty is encountered with subcultures when primary inoculations have been successful, providing that suitable environment and pabulum have been maintained.

Identification demands the fulfilment of the following biologic requirements: (a) Small "dew drop" like colonies—not visible before 48 hours. Older colonies become whitish and tenacious; especially in subcultures. (b) Organisms from direct inoculation colonies must maintain their Gram negative characteristic. Subcultures of certain strains become indefinite in their tinctoral behavior. (c) Subcultures upon ordinary agar must be negative. This is true of most strains even after several laboratory generations. (d) Subcutaneous injections are not toxic for rabbits except in massive doses.

Media. With the view of ascertaining which media were most favorable for artificial growth, a number of infected cases and of different stages were used from which various types of media were inoculated. In this series the media were freshly prepared and inoculations were made directly. Inoculated tubes and Petri dishes were incubated without delay and every effort was made to avoid contamination in taking specimens.